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EXAMINER
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**Technology Center 2100**

**BEFORE THE BOARD OF PATENT APPEALS  
AND INTERFERENCES**

Application Number: 09/910,555  
Filing Date: July 20, 2001  
Appellant(s): MELEIS, HANAFY

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D. Scott Moore  
For Appellant

**EXAMINER'S ANSWER**

This is in response to the appeal brief filed 10/6/2006 appealing from the Office action mailed 4/3/2006.

**(1) Real Party in Interest**

A statement identifying by name the real Party in Interest is contained in the brief.

**(2) Related Appeals and Interferences**

The examiner is not aware of any related appeals, interferences, or judicial proceedings, which will directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal.

**(3) Status of Claims**

The statement of the status of claims contained in the brief is correct.

**(4) Status of Amendments After Final**

The appellant's statement of the status of amendments after final rejection contained in the brief is correct.

**(5) Summary of Claimed Subject Matter**

The summary of claimed subject matter contained in the brief is correct.

**(6) Grounds of Rejection to be Reviewed on Appeal**

The appellant's statement of the grounds of rejection to be reviewed on appeal is correct.

**(7) Claims Appendix**

The copy of the appealed claims contained in the Appendix to the brief is correct.

**(8) Evidence Relied Upon**

A). Li et al., U.S. Patent # 6,012,088.

B). Bahlmann et al. U.S. Patent # 6,487,594.

**(9) Grounds of Rejection**

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The following ground(s) of rejection are applicable to the appealed claims:

Claims 1,3-6,8-13,15-20,22-26 are rejected under 35 U.S.C 103(a). This rejection is set forth in prior Office Action mailed on 4/3/2006.

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1,3-6,8-13,15-20,22-26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Li et al. U.S. Patent # 6,012,088 (hereinafter Li) in view of Bahlmann et al. U.S. Patent # 6,487,594 (hereinafter Bahlmann).

As per claim 1, Li teaches a network model for managing a service, comprising:

-an end service domain (Fig. 1 element 12) that associates the service with an end service provider, the end service domain comprising: (Fig. 1 & 2; column 5 lines 1-13).

The reference teaches Internet service provider (end service domain) that associates service with global carrier (end service provider).

-a plurality of wholesale service domains (Fig. 1 element 30,32), respective ones of the plurality of wholesale service domains comprising at least one network that provides traffic transport for the end service domain; (Fig. 2&3; Column 5 lines 30-38).

The reference teaches plurality of IP network (wholesale service domain) that provide traffic for Internet service provider (end service domain).

-a plurality of gateways (Fig. 2 element 42)(Fig. 3 element 100), wherein at least a first one of the plurality of gateways couples one of the plurality of wholesale service domains to another one of the wholesale service domains and is configured to perform protocol translation on traffic passing between the coupled wholesale service domains, and wherein at least a second one of the plurality of gateways is configured to couple a user to the end service domain and is further configured to communicate with the user by a protocol associated with the service; and (Fig. 1,2,3,4,6)(Column 8 lines 14-36, Column 6 lines 6-12).

The reference teaches providing address translation (protocol translation) between coupled wholesale service domain and gateway configured to couple a user to the end service domain and communicate with the user. Li teaches GateD router with support for OSPF RIP and BGP routing protocols is used to routing information to the appropriate device. Examiner would like to point out that a router or access point's function is to provide protocol translation on traffic passing between routers, and coupling separate domains and endpoints i.e. devices. Examiner would also like to state that an access point's functionality is similar as gateway that is to provide communication between users and perform protocol translation on traffic passing between networks. Li also teaches providing address translation (protocol translation) between coupled wholesale service domain and gateway configured to couple a user to the end service domain and communicate with the user.

-a process domain that provides an abstract representation of applications provided by the end service domain. (Column 6 lines 13-16)(column 8 lines 5-67)(column 9 lines 1-9)

The reference teaches providing email service by the email server, FTP daemon, web server for viewing and accessing WebPages, automatic configuration engine (applications) which are representation of the applications because automatic configuration engine, FTP daemon, system administration module which provided graphical user interface to access WebPages are applications which are provided by the Internet access device through the ISP (end service domain).

-a service management system that is communicatively coupled to the end service domain, the service management system comprising: (column 5 lines 30-38)

-a plurality of software objects that represent resources in the end service domain for providing the service; and (column 5 lines 30-38)(column 8 lines 5-14, lines 36--67)(column 9 lines 1-9)

The reference teaches having plurality of software (software objects) and hardware systems of managing and monitoring the IP network which is obvious that since the IP network contains elements and resources, that they are going to be monitored. Li clearly teaches having plurality of software objects such as email service, web server which is used for viewing WebPages, FTP daemon that represent as resources which are provided by the Internet service provider (end service domain) (Fig. 6). These software objects represents resources in the IP network. Examiner would like to point out that email service, FTP daemon, an automatic configuration engine,

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LAN Manager/AppleTalk file server are software objects, which represent resources in the IP network. E-mail server provides e-mail service both internally to the users of LAN and externally to the world via Internet (software object representing a resource). FTP (File transfer Protocol) daemon (software object) is used both internal and external file storage and transfer (a resource) using industry standard Internet file transfer protocols (software object representing a resource). LAN Manager/AppleTalk file server is a file server providing a central location by which users may exchange files (another software object representing a resource). Automatic configuration engine provides for the automatic configuration of the Internet access device for communication with the Internet. Therefore Li clearly teaches a plurality of software objects that represent resources in the end service domain for providing the service.

Li fails to teach a policy database that comprises rules for associating requirement of the service with resources in the end service domain. Bahlmann teaches a policy database (Fig. 1 element 12,14) that comprises rules for associating requirement of the service with resources in the end service domain (column 3 lines 19-40). Bahlmann further teaches having a central policy database (policy database), which stores all router, interfaces, network policies, service group configurations, supported customer premise equipment, cable modem termination system equipment and their associated configurations (policies associating requirement of the service with the resources).

It would have been obvious to one of ordinary skill in the art at the time of applicant's invention was made to implement having a policy database for associating service

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requirement with the resources. The motivation for doing so would have been so that this allows the internet service provider to standardize the infrastructure and also would like to the internet service provider to react quickly to the subscriber (customers) demands (requirement) for products (service) and standardize the product offerings (column 3 lines 59-62).

As per claim 3, Li and Bahlmann teaches a network model of claim 1, but Bahlmann further teaches wherein the requirements of the service comprise:

- service requirements associated with the user (column 3 lines 31-37).

As per claim 4, Li teaches a network model of claim 1, wherein the first one of the plurality of gateways is further configured to set up internal connections in the one of the plurality of wholesale service domain. (Column 4 lines 30-38)

As per claim 5, Li teaches a model of claim 1, wherein the second one of the plurality of gateways is further configured to analyze incoming user traffic and to segregate the incoming user traffic according to application. (Column 11 lines 34-44).

As per claim 6, Li teaches a method of managing a service comprising:

- providing an end service domain that comprises a plurality of resources that facilitate delivery of the service; (column 5 lines 24-38)

- generating a service model that comprises a plurality of virtual processes and a plurality of virtual connections from the end service domain that are associated with the service;(column 6 lines 42-52)(column 6 lines 64-67) (column 7 lines 1-3)



-obtaining information that specifies capabilities of the plurality of resources in the end service domain; and (column 6 lines 42-52)(column 6 lines 64-67) (column 7 lines 1-3)

-assigning the plurality of virtual processes and the plurality of virtual connection to ones of the plurality of resources based on the information that specifies the capabilities of the plurality of resources (Column 7 lines 19-27) (Column 8 lines 35-42).

Li fails to teach providing a policy database that comprises rules for associating requirements of the service with the plurality of resources. Bahlmann teaches a policy database (Fig. 1 element 12,14) that comprises rules for associating requirement of the service with resources in the end service domain (column 3 lines 19-40). Bahlmann further teaches having a central policy database (policy database), which stores all router, interfaces, network policies, service group configurations, supported customer premise equipment, cable modem termination system equipment and their associated configurations (policies associating requirement of the service with the resources). It would have been obvious to one of ordinary skill in the art at the time of applicant's invention was made to implement having a policy database for associating service requirement with the resources. The motivation for doing so would have been so that this allows the internet service provider to standardize the infrastructure and also would like to the internet service provider to react quickly to the subscriber (customers) demands (requirement) for products (service) and standardize the product offerings (column 3 lines 59-62).

As per claim 8, Li teaches a method of claim 6, wherein the requirement of

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the service comprise:

- service requirements associated with the user (column 3 lines 31-37).

As per claim 9, Li teaches a method of claim 6, wherein generating the service model comprise:

- identifying service points in the end service domain corresponding to at least one resource through which a user accesses the service and at least one resource that hosts an end service domain application. (column 5 lines 30-43)

As per claim 10, Li teaches a method of claim 9, wherein the end service domain comprise:

- a plurality of wholesale service domains (Fig. 1 element 30,32), respective ones of the plurality of wholesale service domains comprising at least one network that provides traffic transport for the end service domain; (Fig. 2&3; Column 5 lines 2-5).

- a plurality of gateways (Fig. 2 element 42), wherein at least a first one of the plurality of gateways couples one of the plurality of wholesale service domains to another one of the wholesale service domains and is configured to perform protocol translation on traffic passing between the coupled wholesale service domains, and wherein at least a second one of the plurality of gateways is configured to couple a user to the end service domain and is further configured to communicate with the user by a protocol associated with the service; and (Fig. 1,2,3,4,6)(Column 4 lines 52-67, Column 6 lines 6-12)

As per claim 11, Li teaches the method of claim 10, further comprising:

-associating respective ones of the plurality of virtual connections with respective ones of plurality of ordered lists of the gateways that define routes through the end service domain (Column 11 lines 50-65).

As per claim 12, Li teaches the method of claim 11, further comprising:

-associating respective ones of the plurality of virtual connections with respective ones of a plurality of routes within the wholesale service domains (Column 11 lines 50-65).

As per claim 13,15-19 respectively, they teach same limitations taught in claims 6,8-12 respectively. Therefore it is rejected under same basis.

As per claim 20,22-26 respectively, they teach same limitations taught in claims 6,8-12 respectively. Therefore it is rejected under same basis.

## **10) Response to Argument**

### **Applicant's Argument:**

Appellant respectfully disagrees and submits that the combination of Li and Bahlmann fails to disclose and suggest "a plurality of gateways (Fig. 2 element 42)(Fig. 3 element 100), wherein at least a first one of the plurality of gateways couples one of the plurality of wholesale service domains to another one of the wholesale service domains and is configured to perform protocol translation on traffic passing between the coupled wholesale service domains". Appellant states "According to claim 1, however, at least one of the plurality of gateways is configured to perform protocol translation. As shown in Fig. 3 of Li, the POP element 42 does not include any

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component or module that allow it to perform protocol translation.” Appellant submits “a POP element 42 as disclosed in Li is an access point for the Internet, not a gateway that provides protocol translation for coupling separate domains”.

**Examiner's response:**

Li teaches plurality of POP (Fig. 2 element 42 “gateways”) contains distribution router, which distributes information among various servers and POP (gateways) coupling to plurality of wholesale service domains (Fig. 1 element 30,32) to another one of the wholesale service domain (Fig. 1 element 30,32) and is configured to perform protocol translation (column 8 lines 24-36). Li teaches GateD router with support for OSPF RIP and BGP routing protocols is used to routing information to the appropriate device. Examiner would like to point out that a router or access point's function is to provide protocol translation on traffic passing between routers, and coupling separate domains and endpoints i.e. devices. Appellant submits “a POP element 42 is an access point for Internet not a gateway”. Examiner would like to point out that in column 6 lines 13-20, Li teaches a POP contains a distribution router (gateway), which connected to a local area network that distributes information for communication to Internet customers. Examiner would also like to state that an access point's functionality is similar as gateway that is to provide communication between users and perform protocol translation on traffic passing between networks. Li also teaches providing address translation (protocol translation) between coupled wholesale service domain and gateway configured to couple a user to the end service domain and communicate with the user.

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Examiner would also like to point to the specification for the applicant's invention in Paragraph 25, which states that gateways devices in accordance with embodiments of the present invention may be called "points of presence (POPs)".

[0025] WSDs (core and access) are connected to each other and to customers/users through devices called gateways (GWs). As shown in FIG. 1, the ESD 22 comprises eight gateways 32a, 32b, 32c, 32d, 32e, 32f, 32g, and 32h that are connected to various ones of the WSDs. More specifically, GWs 32a, 32d, 32g, and 32h connect customers/users to access WSDs 28a, 28b, 28c, and 28d, respectively, and are configured to communicate with the customers/users using a protocol associated with an ESD service. On the other hand, GWs 32b, 32c, 32e, and 32f connect WSDs to each other inside the ESD 22. GW devices may be embodied as translation devices that are configured to translate between protocols used by different ESDs and/or WSDs. Examples of conventional GW devices include, but are not limited to, those network devices that are used to link leased lines to IP networks, or ATM networks to PSTN networks. GW devices, in accordance with embodiments of the present invention, may be called "service switches" and/or "service points of presence (POPs)." These service-switch GW devices, when operated at the edge of the ESD 22, such as GWs 32a, 32d, 32g, and 32h, may be configured to analyze incoming traffic and to segregate the incoming user traffic according to application. When operated internal to the ESD

#### **Applicant's Argument:**

Appellant submits that Li fails to disclose or suggest "a process domain that provides an abstract representations of applications". Appellant submits "the software modules shown in Fig. 6 of Li for the Internet access device 100 are not abstract representations of applications provided by another entity, such as an end service domain, but are instead software components used to provide functionality and operability for the Internet access device".

#### **Examiner's response:**

Examiner respectfully disagrees with the applicant because in Column 6 lines 13-16, column 8 lines 5-67, column 9 lines 1-9, Li teaches providing email service by the email server, FTP daemon, web server for viewing and accessing WebPages, automatic configuration engine (applications) which are representation of the applications because automatic configuration engine, FTP daemon, system administration module which provided graphical user interface to access WebPages are applications which are provided by the Internet access device through the ISP (end service domain). Li also teaches address translation module allows for both host and network to provide address translation (abstract representation of applications). The module in communication with domain name server (DNS) and dynamic host configuration protocol (DHCP) server, which supply appropriate connectivity, protocols to the Internet. Examiner would like to point out that in specification of applicant's invention in Paragraph 26, it states that TCP/IP networks include a service called domain name system (DNS) that provides logical name-to-address translation which is viewed as abstract representation.

**[0026]** The ESD 22 further comprises a process domain 34 that provides an abstract representation of applications provided by the ESD 22. More specifically, the process domain 34 represents those network processes that a customer/user of the ESD 22 would recognize as an application provided by the network. For example, many TCP/IP networks include a service called the Domain Name System (DNS) that provides logical name-to-address translation. Network DNS servers that provide this service may be viewed as network processes. Network process resources may be located anywhere in the ESD 22, including interior to the WSDs. In accordance with embodiments of the present invention, these network processes are represented as the process domain 34.

Therefore, Li teaches same exact feature as address translation module allows for both host and network to provide address translation (abstract representation of applications). The module in communication with domain name server (DNS) and dynamic host configuration protocol (DHCP) server, which supply appropriate connectivity, protocols to the Internet.

**Applicant's Argument:**

Appellant submits that Li fails to disclose or suggest that "plurality of software objects that represent resources in the end service domain for providing the service." Appellant acknowledges that the IP network(s) contains many elements and resources to be monitored, Appellant submits that Li does not provide any disclosure or suggestion that the ISP includes software objects that represent the resources in IP network(s). Appellant respectfully submits that the various functional software components shown in Fig. 6 for an Internet access device 100 are not related to software objects that represent resources in an end service domain. The Internet access device 100 uses the Internet and is not involved in managing resources that comprise the Internet.

**Examiner's response:**

Examiner respectfully disagrees with the applicant because in column 5 lines 30-38, column 8 lines 5-14, lines 36-44, lines 51-67, column 9 lines 1-9, Li teaches having plurality of software (software objects) and hardware systems of managing and monitoring the IP network which is obvious that since the IP network contains elements and resources, that they are going to be monitored. Li clearly teaches having plurality

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of software objects such as email service, web server which is used for viewing WebPages, FTP daemon that represent as resources which are provided by the Internet service provider (end service domain) (Fig. 6). These software objects represents resources in the IP network. Examiner would like to point out that email service, FTP daemon, an automatic configuration engine, LAN Manager/AppleTalk file server are software objects, which represent resources in the IP network. E-mail server provides e-mail service both internally to the users of LAN and externally to the world via Internet (software object representing a resource). FTP (File transfer Protocol) daemon (software object) is used both internal and external file storage and transfer (a resource) using industry standard Internet file transfer protocols (software object representing a resource). LAN Manager/AppleTalk file server is a file server providing a central location by which users may exchange files (another software object representing a resource). Automatic configuration engine provides for the automatic configuration of the Internet access device for communication with the Internet. Therefore Li clearly teaches a plurality of software objects that represent resources in the end service domain for providing the service.

**Applicant's Argument:**

Appellant submits that Bahlmannn does not appear to include any disclosure or suggestion of including rules that associate requirements of service with the network resources. Appellant also submits that Bahlmannn fails to disclose or suggest the policy database. Appellant respectfully submits, however that Bahlmannn does not appear to



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include any disclosure or suggestion that central policy database further includes rules in which requirements of a service are associated with the network element.

**Examiner's response:**

Examiner respectfully disagrees with the applicant because Bahlmann teaches in column 3 lines 19-40 and Fig. 1 element 12,14, having a central policy database (policy database), which stores all router, interfaces, network policies, service group configurations, supported customer premise equipment, cable modem termination system equipment and their associated configurations (policies associating requirement of the service with the resources).

It would have been obvious to one of ordinary skill in the art at the time of applicant's invention was made to implement having a policy database for associating service requirement with the resources. The motivation for doing so would have been so that this allows the internet service provider to standardize the infrastructure and also would like to the internet service provider to react quickly to the subscriber (customers) demands (requirement) for products (service) and standardize the product offerings (column 3 lines 59-62).

Applicant states that central policy database does not includes rules in which requirements of a service are associated with the network element. Examiner would like to point out that policy database stores all router, network policies (requirement of service), service group configuration and cable modem termination system equipment and their associated configuration (requirement of service associated with the network element). Examiner would like to point that nowhere in the claim language does the

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applicant specify as what are the rules that associate requirements of a service, which are associated with the network element. The claim language states a policy database that comprises rules for associating requirements of service with resources in the end service domain. Bahlmann teaches a policy database, which stores network policies, service group configuration, which are rules/policies, which are associated with the routers and the network elements (with resources) in the end service domain. The broadest interpretation of requirement of service with the resources are deemed as policy database which stores all router, network policies and service group configuration and cable modem termination system equipment and their associated configuration (associated with the network element). Therefore Bahlmann teaches the claimed limitations.

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**(11) Related Proceeding(s) Appendix**

No decision rendered by a court or the Board is identified by the examiner in the Related Appeals and Interferences section of this examiner's answer.

For the above reasons, it is believed that the rejections should be sustained.

Respectfully submitted,

DAP

Dhairya A. Patel  
Examiner  
Art Unit 2151  
January 4, 2007

Conferees:

  
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